

an elongate tapering scale covering the suture between these two scales above. Preanal pores distinct, in an angular series; scale granular, with series of larger, round, convex granules. Tail cylindrical, with rings of larger subangular tubercles, swollen near the vent beneath, and with large tubercles on each side.

*Coleonyx elegans*. Gray; head and nape with concentric black streaks; back and tail with irregular black cross-bands, beneath gray; back with numerous series of roundish tubercles, smaller and more distant on the head and nape, and more crowded on the limbs.

Inhab. Belize. Collection of the British Museum.

XVI.—*The Arctic Expedition under the command of Sir JOHN FRANKLIN.*

WE have been favoured with the sight of letters from Mr. H. Goodsir, who is attached to this expedition, and hasten to communicate to our readers an outline of the results already obtained. The zeal and scientific knowledge of our friend Mr. Goodsir have raised high anticipations of the value to natural science of this voyage, and these have, if possible, attained a still greater elevation by what has been already done. It is most satisfactory to learn that the officers of the expedition, and also a considerable number of the men, are most active in rendering every assistance to him in his researches. They have indeed kept him at work almost night and day (if there can be said to be any night in these latitudes), examining, drawing, and describing new or highly interesting animals.

We will now proceed to give a short account of the voyage, as learned from Mr. Goodsir's letters, which are dated from "Disco in Baffin's Bay, July 7, 1845."

The earlier part of the voyage was rather tedious, owing to adverse and stormy winds, so that the ships were driven far to the north-east, near enough on June 11th to have seen the mountains of Iceland, had the state of the atmosphere allowed. On the 22nd they were off Cape Farewell, the southern point of Greenland. Up to this date there were only two days upon which he could make any observations, but the results of these are extremely interesting. On the 10th of June, in lat.  $61^{\circ} 47'$ , long.  $14^{\circ} 14'$ , numerous specimens of a species of *Briareus* were obtained, furnishing an important addition to our knowledge of these animals. The presence of "cilia fringing the bifurcated portions of the lateral extremities of its body," decides the position of the genus in nature, and proves that Quoy and Gaimard's idea of its being molluscous is not correct. Its intestinal canal consists of a straight tube with but one oval opening. The re-

jection of the indigestible portion of its food is effected by dilating the whole body with water and then ejecting it.

At the same time a small species of *Clio*, several *Beroë*, one specimen of a free *Actinia*, and a very beautiful Crustacean, forming a new genus in the family *Pontia* and allied to *Irenæus*, were obtained. The last is characterized by its large size, "the enormous length of the four central tail-filaments; the inner of which are not themselves armed with filaments, all the others being so; each of the antennæ has a joint at the distal part of the first third, thus enabling the animal to bend them and conceal them under its body."

On the second fine day a most interesting Ciliograde was obtained of very peculiar form, and having the ciliated ribs transverse instead of longitudinal; the cilia arising from either edge of the ribs. Mr. Goodsir thinks that its minute structure, which is very complicated, proves its affinity to the *Diphydæ* and also the *Salpæ*. All the *Medusæ* obtained on these two days were Ciliogrades.

On the 23rd of June, having rounded Cape Farewell in a heavy gale of wind on the preceding day, on entering Davis' Straits numerous beautiful *Pteropoda* of the genus *Clio* were obtained in company with *Spiratella*. They were swimming actively in the water and were adorned with the brightest colours; only approaching the surface of the sea on calm evenings. The observations made upon these animals have enabled Mr. Goodsir to confirm the observations of Eschscholtz in most points.

On the 25th numerous *Medusæ* were seen, all of these of the family *Beroïdæ* and mostly of the species *B. punctata* of Eschscholtz. On the 27th soundings were obtained in 41 fathoms and a dredge put down, which produced, amongst many other interesting captures, a new species of *Caprella*, *Amphipoda* in great number, several *Asteriadaë*, a *Terebratula* and several other Mollusca, an Isopod forming a new genus allied to *Minnæ*, a very beautiful Ascidian, four species of fish—*Cyclopterus*, *Liparis*, *Ammodytes*, and a beautiful species new to the observer. On the same day a large shoal of the Caing whale (*Phocæna Melas*) passed on their way towards the south.

On the 28th a dredge was sunk to the enormous depth of 300 fathoms, and produced many highly interesting species of Mollusca, Crustacea, *Asteriadaë*, *Spatangi* and Corallines; such as *Fusus*, *Turritella*, *Venus*, *Dentalium*, &c.; and also some large forms of *Isopoda*. As bearing upon the geographical distribution of species, Mr. Goodsir considers the occurrence of *Brissus lyrifer* (Forbes) and *Alauna rostrata* (Goodsir) as of the greatest interest, both of them being natives of the Scottish seas. The remarkable depth also appears to us to give peculiar interest to

these researches, as we believe that the deepest dredgings ever previously obtained were those of Prof. E. Forbes in the Levant, the deepest of which was 230 fathoms, itself far beyond any made by other naturalists. Such valuable and laborious researches can only be made when the officers of a ship have such kindly dispositions towards the observer of nature as was the case during Prof. Forbes's voyage, and is now shown by those under the command of Sir J. Franklin.

On the 1st of July two specimens of a small species of *Beroë* were obtained, which greatly illustrated the process of their development. "A thick germinal membrane of a red colour was observed lining the central cavity of the body, in which both male and female cells appeared to be developed. The ova having arrived at some size project so far as to become pedunculated, and so hang from the membrane into the cavity. The male cells are also developed in the same membrane."

Mr. Goodsir is making minute observations upon the ice of the bergs, and as he purposes continuing them throughout the voyage, there can be little doubt of his arriving at valuable conclusions. He observes that it is quite without salt; this was to be expected, when we consider that they are not formed of marine ice, but are parts of glaciers which have become detached and fallen into the sea. "The surface of a mass when melting presents numerous flat concavities, all of them of about the same size and form, and without any interruption, excepting the ridges forming the walls of separation." A loud cracking noise is heard and small particles are occasionally thrown off. The minute structure of the ice consists of three series of cells—two traversing the mass in one direction, and one at right angles to them. Of the former, one series consists of moderately large and quite globular cells of nearly uniform size, each having within it "a small globule of a peculiar fluid;" the oblong, sausage-shaped cells of the other series also contain small globules, but usually several instead of one. The mode of formation of these cells and the nature of the inclosed fluid are subjects to which his attention will be especially turned. The third series consists of very minute cells, arranged in well-defined wavy bands, which run across the lines formed by the other series. These bands are of an opaque white colour.

We also find some observations upon the action of floating ice upon the granitic shores of the islands. All the rocks below high water mark and some considerably above it are rounded off into long irregular ridges with intervening hollows by the half-floating masses of ice.

As the ships were to stay at the Whale-fish Islands for a few

days, Mr. Goodsir hoped to obtain a complete collection of the animals, plants and minerals existing upon them.

The expedition has now proceeded into the inhospitable icy regions of the north, and we must not expect to receive any further accounts of it until it has either succeeded in making its way into the Pacific Ocean, or having found that to be impossible, is on its return to England. In either case there can be no doubt that much valuable scientific information will be obtained.

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XVII.—*Observations on some Plants obtained from the shores of Davis' Straits.* By WILLIAM SELLER, M.D., Fellow of the Royal College of Physicians, Edinburgh\*.

A FEW weeks since, Mr. Sutherland, a student of medicine, who made a voyage last summer to Davis' Straits as medical officer of a whale ship, presented me with some plants gathered on the coasts and dried as he best could without any of the usual botanical conveniences. There are in all about twenty-five species, and a few of them are plants which cannot fail to interest the botanist. All of them were gathered within or close upon the Arctic Circle, on the coasts of Davis' Straits and Baffin's Bay, adjacent to the usual course of whale-fishing vessels, so that, were it deemed desirable, it would be easy, by holding out a little encouragement, to induce some of the many young men who go out annually in the same capacity with Mr. Sutherland to bring home collections of this description.

It is impossible to believe that the variations of species under the opposite circumstances of different regions, as respects soil, situation and climate, do not take place in obedience to fixed general laws. Yet our knowledge on this head at present consists almost exclusively of what may be called unreduced particular observations on certain species; too few to found upon. It may be that such laws prevail, yet lie beyond our reach. If such be the case, the only resource is to make up our minds to sacrifice brevity in regard to species observed to vary, and to practise detailed description of all their varieties. And fortunately, while this method serves as a considerable corrective of the evil in the meantime, it is the only plan, by following out which we can hope to arrive at the general laws of variation, if these be attainable.

When a species is known to be polymorphous, we might, in the meantime, advisably lay aside the ordinary circumscribed

\* Read before the Botanical Society of Edinburgh, 12th of June and 10th of July, 1845.